Diversity of Lactic acid bacteria isolated from fura produced in Ghana

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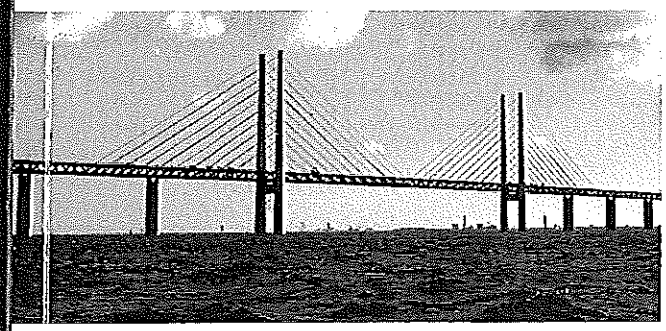
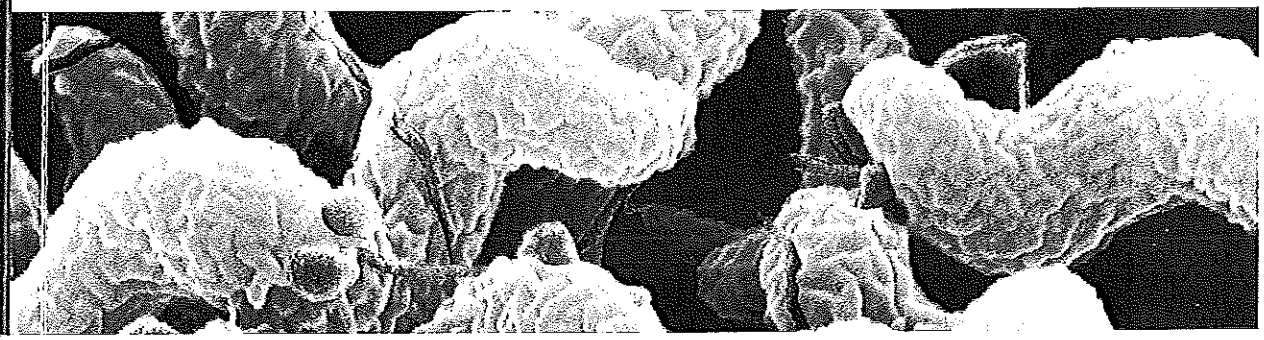


Copenhagen 30th August - 3rd September



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ntes cedex 3, France
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ıte to maintain the ecological
te the anterior small intestine,
2).
s of Tunisian poultry. We have
lactic acid bacteria that were
PCR (intergenic spacer region)
ification was applied (species-

nly of *Lactobacillus sakei* (33.3
'euteri (8.3 %) and *Lactobacil-*
nteroides (2.7 %), *Lactococcus*

873.
. *Ecol.* p : 171-179.
ue de la Géraudière BP 82225,

digenous microflora and

tà 16, Legnaro (PD), Italy
di Padova, via XXVIII Aprile

:erial derived from separation
d after the transport from the
ng this period sugar fermen-
ɔoilage of the product due to
acidification, refrigeration, or
: acidified with sulphuric acid
e marcs were used as control.
r 15 and 43 days when grape

At the beginning of the ensi-
ɔut 10^5 cfu/g. During the first
to 10^7 cfu/g) in both acidified
ia population increase, as the
ified at pH 2,6. This situation
nent on the aroma profile of
n recovered at the end of the
:ctive pressure due to strong

PEA1.35 **Designing safe probiotic fermented sausages**

Margarita Garriga (1), S Bover-Cid (1), R Rubio (1), B Martín (1), T Aymerich (1)
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Within the trends of consumer demands of safe and healthy products, the purpose of the present study was to assess the compatibility between the probiotic strain *Lactobacillus plantarum* 299V and the bioprotective starter culture *Lactobacillus sakei* CTC494 in Spanish fermented sausages. Three independent batches were elaborated: lot 1 (inoculated with *L. plantarum* 299V at 1.0×10^7 cfu/g), lot 2 (*L. sakei* CTC494 at 3.0×10^6 cfu/g) and lot 3 (with both strains). Technological parameters and microbial counts were evaluated during fermentation and ripening of sausages. Randomly amplified polymorphic DNA (RAPD)-PCR was used to monitor the competitiveness of the probiotic and the bioprotective starter cultures. LAB counts achieved 10^8 cfu/g in all batches and RAPD-PCR profiles obtained at each sampling time confirmed the implantation of the assayed strains. Nevertheless, in the compatibility lot 3, *L. sakei* CTC 494 was able to grow until 10^8 cfu/g, while *L. plantarum* 299V survived keeping counts at 10^7 cfu/g until the end of ripening. This work proved the feasibility to combine probiotic and bioprotective culture strains in fermented sausages.

PEA1.36 **Diversity of *Lactic acid bacteria* isolated from fura produced in Ghana**

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The majority of traditional cereal-based foods consumed in Africa are processed by spontaneous fermentation and are important as weaning foods for infants and as dietary staples for adults. *Fura*, is a popular millet-based dumpling consumed throughout West Africa, particularly Nigeria, Burkina-Faso and Ghana The biodiversity of lactic acid bacteria isolated during the processing of millet into *fura*, was investigated in a range of production units in northern Ghana. A total of 181 strains of lactic acid bacteria were isolated. Lactic acid bacteria biodiversity was evaluated by both phenotypic and molecular based methods. Molecular biology-based grouping of strains was performed using rep-PCR (GTG_5-primer) followed by 1.5% agarose gel electrophoresis. Based on the phenotypic and genotypic grouping, representative isolates were selected and the 16S rRNA gene sequenced. Based on the molecular analyses it was concluded that production of *fura* in the Northern part of Ghana is dominated by *Lactobacillus fermentum, Lactobacillus plantarum, Lactobacillus pentosus, Lactobacillus reuteri, Lactobacillus salivarius, Pediococcus acidilacticci, Pediococcus pentasoceus, Weissella confusa* and *Weissella cibaria*. One group of strains with similar characteristics could not be identified based on the methods used and needs to be investigated in further details in order to define its species assignation or the possibility of being a new so far undefined species. The development of starter culture from the dominating organisms is important for the potential production of standardized *fura* at a commercial, small industrial scale, and for the improvement of its acceptability, microbiological stability and hygienic safety.